

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. – 2. (Cancelled)

3. (Currently Amended) ~~The method of providing access to subscriber services of claim 2 wherein the step of sending a registration message from at least one service provider to a presence server in the network also includes~~ A method of providing service users in a telecommunications network with access to a subscriber service, said method comprising the steps of:

registering in the network, a plurality of service users who subscribe to the subscriber service;

receiving at a presence server in the network, a registration message from at least one service provider that is a provider of the subscriber service, said registration message including service capability information for the service provider;

sending an identity of the service provider from the presence server to the plurality of service users upon the presence server determining that the service capability information provided by said service provider matches said subscriber service subscribed by said plurality of service users;

wherein the network utilizes Session Initiation Protocol (SIP) control signaling for call setup and call control, and the step of sending a registration message from at least one service provider to a presence server in the network, includes:

modifying a SIP REGISTER message to include service capabilities information for the service provider;

sending the SIP REGISTER message from the service provider to the presence server; and

sending an update SIP REGISTER message from the service provider to the presence server whenever the service capabilities or presence state of the service provider change.

4. (Original) The method of providing access to subscriber services of claim 3 further comprising notifying the service users of changes to the service capabilities of the service provider whenever the service provider sends an update SIP REGISTER message to the presence server.

5. (Currently Amended) ~~The method of providing access to subscriber services of claim 2~~ A method of providing service users in a telecommunications network with access to a subscriber service, said method comprising the steps of:
registering in the network, a plurality of service users who subscribe to the subscriber service;

receiving at a presence server in the network, a registration message from at least one service provider that is a provider of the subscriber service, said registration message including service capability information for the service provider, wherein the service capabilities capability information includes a specified service type, and the step of storing service capability information for the service provider in a presence server includes:

storing in the presence server, a predefined list of service types that may register as service providers; and

matching the specified service type of the service provider with one of the service types on the predefined list[.];

sending an identity of the service provider from the presence server to the plurality of service users upon the presence server determining that the service capability information provided by said service provider matches said subscriber service subscribed by said plurality of service users;

wherein the network utilizes Session Initiation Protocol (SIP) control signaling for call setup and call control, and the step of sending a registration message from at least one service provider to a presence server in the network, includes:

modifying a SIP REGISTER message to include service capabilities information for the service provider; and

sending the SIP REGISTER message from the service provider to the presence server.

6. (Currently Amended) ~~The method of providing access to subscriber services of claim 2~~ A method of providing service users in a telecommunications network with access to a subscriber service, said method comprising the steps of:

registering in the network, a plurality of service users who subscribe to the subscriber service;

receiving at a presence server in the network, a registration message from at least one service provider that is a provider of the subscriber service, said registration message including service capability information for the service provider;

sending an identity of the service provider from the presence server to the plurality of service users upon the presence server determining that the service capability information provided by said service provider matches said subscriber service subscribed by said plurality of service users, wherein the service capabilities capability information includes a specified service type, and the method further comprises the steps of:

determining by the presence server whether the presence server supports the specified service type; and

sending an error message to the service provider if the presence server does not support the specified service type[.];

wherein the network utilizes Session Initiation Protocol (SIP) control signaling for call setup and call control, and the step of sending a registration message from at least one service provider to a presence server in the network, includes:

modifying a SIP REGISTER message to include service capabilities information for the service provider;

sending the SIP REGISTER message from the service provider to the presence server; and

7. (Currently Amended) ~~The method of providing access to subscriber services of claim 2~~ A method of providing service users in a telecommunications network with access to a subscriber service, said method comprising the steps of:

registering in the network, a plurality of service users who subscribe to the subscriber service;

receiving at a presence server in the network, a registration message from at least one service provider that is a provider of the subscriber service, said registration message including service capability information for the service provider;

sending an identity of the service provider from the presence server to the plurality of service users upon the presence server determining that the service capability information provided by said service provider matches said subscriber service subscribed by said plurality of service users;

wherein the network utilizes Session Initiation Protocol (SIP) control signaling for call setup and call control, and the step of sending a registration message from at least one service provider to a presence server in the network, includes:

modifying a SIP REGISTER message to include service capabilities information for the service provider;

sending the SIP REGISTER message from the service provider to the presence server; and

wherein the step of sending a registration message from at least one service provider to a presence server in the network also includes modifying the SIP

REGISTER message to include an indication of a traffic load being handled by the service provider.

8. (Original) The method of providing access to subscriber services of claim 7 further comprising, prior to sending an identity of the service provider from the presence server to the plurality of service users, the step of analyzing the traffic load being handled by the service provider to determine whether the service provider can currently serve additional service users.

9. (Original) The method of providing access to subscriber services of claim 8 further comprising, upon determining that the service provider cannot currently serve additional service users, the steps of:

classifying the service provider as present but unavailable; and

notifying the plurality of service users of the identity of the service provider, and that the service provider is currently unavailable.

10. (Original) The method of providing access to subscriber services of claim 7 further comprising, prior to sending an identity of the service provider from the presence server to the plurality of service users, the steps of:

analyzing the traffic load being handled by the service provider to determine whether the service provider is more lightly loaded than another registered service provider that provides the subscriber service; and

upon determining that the service provider is not more lightly loaded than the other registered service provider, sending an identity of the other service provider from the presence server to the plurality of service users.

11. - 14. (Cancelled)

15. (Currently Amended) ~~The method of balancing a traffic load of claim~~
14 A method of balancing a traffic load between a plurality of service providers that

provide a subscriber service to a plurality of service users in a telecommunications network, said method comprising the steps of:

registering in the network a plurality of service providers that provide the subscriber service, said service provider registering step including modifying registration messages from the service providers to include an indication of a traffic load being handled by each service provider, wherein the step of registering a plurality of service providers includes sending an update registration message from a particular service provider to the network whenever the traffic load of the particular service provider changes[[]];

analyzing the traffic load indications to determine a service provider that is the most lightly loaded; and

notifying the plurality of service users that the most lightly loaded service provider is present on the network.

16. (Original) The method of balancing a traffic load of claim 15 wherein the step of analyzing the traffic load indications to determine a service provider that is the most lightly loaded includes re-analyzing the traffic load indications after an update registration message is received from any of the service providers.

17. – 19. (Cancelled)

20. (Currently Amended) ~~The system for providing a subscriber service of claim 19~~ A system for providing service users in a telecommunications network with access to a subscriber service, said system comprising:

at least one service provider that sends registration information to the network, said registration information including service capability information for the service provider; and

a presence and instant messaging (PIM) server that receives registration information and stores registration information, service information, and presence

information for a plurality of service users and service providers, said PIM server including:

means for determining, from the registration information received from each service provider, a type of service that is provided by the service provider; and
communication means for notifying the service users of an identity of a service provider when the service provider registers.

a connection node in communication with the PIM server, said connection node being operable to establish a connection between service users who subscribe to the subscriber service and a registered service provider that provides the subscriber service;

wherein the network utilizes Session Initiation Protocol (SIP) control signaling, and the connection node is a Call State Control Function (CSCF).

21. (Cancelled)